



PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Lester LUDWIG et al.

Application No.: 09/072,549

Filed: May 5, 1998

For: MULTIPLEXING VIDEO AND CONTROL SIGNALS ONTO UTP

Group Art Unit: 2757

Examiner: D. Dinh

#23 / Declaration
1-28-01
AT-

DECLARATION OF LESTER F. LUDWIG

Assistant Commissioner of Patents
Washington, D.C. 20231

Sir:

I, Lester F. Ludwig, hereby declare and state as follows:

1. I am one of the named inventors in the subject application.
2. I have reviewed an Advisory Action issued December 6, 2000 in connection with the subject application. As I understand the Examiner's position as set forth in that Advisory Action, the Examiner believes that the present application and the Verhoeckx et al. reference (USP 4,005,265) contain equivalent disclosure, so far as the enabling teaching of transmission of TV-quality video signals over unshielded twisted pair (UTP) is concerned. Therefore, the Examiner believes that it is reasonable to rely on Verhoeckx et al. to reject the claims of this application, notwithstanding the disclosure of Verhoeckx et al. of 1 MHz bandwidth over UTP, a figure clearly inadequate to enable transmission of TV-quality video over UTP. I disagree with the Examiner, for the following reasons.

3. Prior to the effective filing date of the present application (October 1, 1993), my coinventor, J. Chris Lauwers, and I conceived of a system that included the transmission of TV-quality video signals over UTP. One aspect of the conceived system included my recognition that one could use a common mode filter, such as the one disclosed in USP 4,800,344 (the "'344 Patent'"), issued January 24, 1989 to Graham, to improve line transmission quality so as to enable the kind of bandwidth over UTP that is necessary to transmit TV-quality video signals. Experiments conducted between the conception date and October 1, 1993 verified the concept.

4. After the conception, but before October 1, 1993, I held discussions with Mr. Graham, the named inventor of the '344 Patent, relating to the video transmission capabilities of the circuit disclosed in the '344 Patent. In one of our discussions, I told Mr. Graham that the common mode filter disclosed in the '344 Patent could be used as part of a design to enable the transmission of TV-quality video signals over UTP. After our discussions, Mr. Graham later informed me that he had licensed video applications of the '344 Patent to Mr. Dan Nitzan.

5. After Mr. Graham told me of his license agreement with Mr. Nitzan, but before October 1, 1993, I held discussions with Mr. Nitzan. It is my understanding that at the time of our discussions, Mr. Nitzan had started Network Video Technologies, Inc. (Redwood City, California). It is also my understanding, that at the time I talked to Mr. Nitzan, he possessed no more than ordinary skill in the art of the present invention, which includes videoconferencing hardware and video signal transmission. (Someone of ordinary skill in the art might be either someone with a bachelor's degree in electrical engineering and a few years' experience in the field, or someone without a bachelor's degree, but with perhaps a few years' more practical experience in the field.)

6. During our discussions, I told Mr. Nitzan that, while the disclosure of the '344 Patent was not directed to video signal transmission, the common mode filter disclosed therein could be used as part of a design to enable the transmission of TV-quality video signals over UTP.

7. Other than the '344 Patent, which was publicly available as of its 1989 issue date, and perhaps some other information that in any event would have been within the knowledge of the ordinarily skilled artisan at the time, in my discussions with Mr. Nitzan that related to the present invention, I told him no more than what is disclosed in the present application. It is my belief and understanding that the relevant substance of what Mr. Graham disclosed to Mr. Nitzan regarding the video transport capabilities of the circuit described in the '344 Patent amounted to no more than what I disclosed to Mr. Graham. My belief and understanding is based on my discussions with Mr. Nitzan and with Mr. Graham.

8. Some of the relevant aspects of the present application that I related to Mr. Nitzan are illustrated in FIG. 19, and discussed at various points in the accompanying specification. For example, in FIG. 19 of the present application, A/V transceivers 840 are shown having inputs and outputs Video Out 841, Video In 842, Audio Out 843, and Audio In 844. FIG. 19 further shows that A/V Transceivers 840 further comprise port 845, which is ultimately connected to A/V Network (UTP) 901.

9. The present application also describes input and output of video signals through an A/V transceiver. Specifically, the application notes that video signals are passed as input into A/V Transceivers 840, and that A/V Transceivers 840 transform these video signals from standard video cable signals to UTP signals (Specification, pg. 23, para. 3). The A/V

transceivers 840 then send the UTP video signals, via port 845, onto AV Network (UTP) 901 (Specification, pg. 23, para. 3).

10. The present application further describes how an A/V transceiver processes video input. In a fashion similar to video output, video signals are received from AV Network (UTP) 901 through port 845 of A/V Transceivers 840 (Specification, pg. 23, para. 5 to pg. 24, para. 1). The video signals are then passed through A/V Transceivers 840 and sent out Video Out port 841, so that the video signals may ultimately be received by some display mechanism (Specification, pg. 24, para. 1).

11. After my discussions with Mr. Nitzan, but prior to the effective filing date of the present application (October 1, 1993), NVT produced an A/V transceiver (NVT Model 518A Video Transceiver). The Model 518A Video Transceiver was made available to the public prior to the effective filing date of the present application.

12. The Model 518A Video Transceiver specification sheet states that this device "allows the transmission of real-time color video and high quality audio over up to 2,000 feet of standard telephone wire" (i.e., UTP) (See attached copy of the 518A specification sheet). The specification sheet further states that the device supports applications such as video conferencing and multi-media, and that the device is NTSC, PAL, and SECAM compatible.

13. The specification sheet further makes specific reference to video common mode rejection of 49 dB at 5 MHz. In my opinion, this reference to a common mode rejection of 49 dB at 5 MHz is consistent with the common mode filtering technique taught by the '344 Patent. It also is

my opinion that the specification sheet's reference to video signal transmission at 5 MHz is consistent with the necessary bandwidth to transmit TV-quality video.

14. Based on the foregoing, in my opinion, the information that I disclosed to Mr. Nitzan during our discussions was sufficient for Mr. Nitzan to construct the Model 518A Video Transceiver. Thus, I believe that Mr. Nitzan combined the information that I disclosed to him, with his ordinary skill in the art, to construct the Model 518A Video Transceiver.

15. The present application also contains additional disclosure that I did not specifically relate to Mr. Nitzan, which provides further evidence of the enabling nature of this application. For example, I did not specifically discuss with Mr. Nitzan some of the various wiring formats utilized by the workstations of the present application, along with the potential muxing/demuxing facilities of A/V Transceiver 840. These wiring formats and multiplexing facilities are thoroughly discussed in the present application.

16. For instance, the use of UTP for video signal transmission is specifically referred to in the present application. Workstations are described as communicating with LANs via commonly installed 4-pair UTP telephone wires, wherein one pair is used for incoming video with accompanying audio multiplexed in, another pair is used for outgoing multiplexed audio/video, and where the remaining two pairs are used for carrying incoming and outgoing data (Specification, pg. 10, para. 3).

17. Specific examples of UTP wiring formats that may be used by the workstations also are described. The present application specifically notes that 10BaseT Ethernet uses RJ-45 pins 1,2,4, and 6, leaving pins 3, 5, 7, and 8 available for two A/V twisted pairs, and that the resulting

system is compatible with standard (AT&T 258A, EIA/TIA 568, 8p8C, 10BaseT, ISDN, 6P6C, etc.) telephone wiring (Specification, pg. 10, para. 3).

18. A/V transceivers 840 are also described in the application as potentially also having muxing/demuxing facilities to enable the transmission of audio/video signals on a single pair of wires (Specification, pg. 25, para. 1). The application even gives an example of how muxing/demuxing may take place, by noting the ability of the A/V transceiver to encode audio signals, digitally, in the vertical retrace interval of the analog video signal (Specification, pg. 25, para. 1).

19. Since the relevant subject matter that I disclosed to Mr. Nitzan is no more than what is disclosed in the present application, and since Mr. Nitzan was able to construct the NVT Model 518A transceiver, it is my opinion that anyone having only ordinary skill and knowledge in the art could have made and used an A/V transceiver that permits the transmission of TV-quality color video on UTP based on the teachings of the present application.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

JAN-16-2001 15:54

CHARLES MION ET AL

DECLARATION OF LESTER F. LUDWIG
U.S. Application No. 09/072,549

PATENT APPLICATION

Jan 16, 2001
Date: January 16, 2001


Lester F. Ludwig